Training Course on Strategic Implications of 5G and Advanced Connectivity

Professional Development Training Course Outline

Category	CEOs and Directors	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The advent of 5G and advanced connectivity represents a profound technological paradigm shift, fundamentally reshaping industries, economies, and societies worldwide. This transformative evolution goes far beyond faster mobile internet; it's the bedrock for **real-time communication**, **ubiquitous IoT**, **AI-driven automation**, and entirely new **digital ecosystems**. Understanding the **strategic implications** of this revolution is no longer optional but a critical imperative for organizations aiming to maintain competitive advantage, drive innovation, and unlock unprecedented opportunities in a hyper-connected future.

Training Course on Strategic Implications of 5G and Advanced Connectivity provides a deep dive into the **strategic landscape of 5G** and **advanced wireless technologies**. Participants will gain comprehensive insights into its foundational principles, network architectures, and the disruptive **use cases** across diverse sectors like manufacturing, healthcare, transportation, and smart cities. We will explore how **edge computing**, **network slicing**, and **AI/ML integration** with 5G are creating fertile ground for innovation and necessitate a proactive strategic response from businesses and governments alike.

Programme Curriculum

Training Course on Strategic Implications of 5G and Advanced Connectivity

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10 days

Course Objectives

Upon completion of this course, participants will be able to:

1. Comprehend the core components and evolutionary path of 5G and **5G-Advanced** networks.
2. Evaluate the impact of **Enhanced Mobile Broadband (eMBB)**, **Ultra-Reliable Low-Latency Communication (URLLC)**, and **Massive Machine-Type Communication (mMTC)** on business models.
3. Understand the role of **Wi-Fi 6/7**, **Low Power Wide Area Networks (LPWAN)**, and **Satellite Communications** in a converged connectivity landscape.
4. Recognize how 5G fuels **Industrial IoT (IIoT)**, **smart manufacturing**, and **digital twins**.
5. Design and implement **Mobile Edge Computing (MEC)** solutions for localized data processing and ultra-low latency applications.
6. Leverage **network slicing** to create customized, virtual network infrastructures for diverse vertical industries.
7. Understand how **AI/ML** optimizes 5G
8. Determine the strategic advantages and deployment considerations of **private 5G** for enterprise digital transformation.
9. Grasp the complexities of **spectrum allocation**, **mmWave deployments**, and their impact on network rollout.
10. Develop innovative business strategies and revenue streams leveraging 5G's unique capabilities.
11. Identify and mitigate emerging cybersecurity threats within the 5G and advanced connectivity ecosystem.
12. Champion organizational **digital transformation** initiatives powered by pervasive high-speed, low-latency connectivity.
13. Gain foresight into the research and potential future capabilities of **6G technologies** and beyond.

Organizational Benefits

- Equip teams with the knowledge to harness **5G's disruptive potential**, fostering new product development and service innovation.
- Drive **operational efficiency** through real-time data analytics, automation, and enhanced connectivity for critical systems.
- Empower leaders to make informed strategic decisions regarding **technology investment**, infrastructure development, and market positioning.

- Upskill the workforce to navigate the complexities of advanced connectivity, ensuring a **future-ready talent pool**.
- Proactively identify and address **cybersecurity vulnerabilities** and regulatory challenges associated with widespread 5G adoption.
- Unlock opportunities for creating **innovative 5G-enabled services** and expand market reach.
- Position the organization as a **digital leader** in the era of advanced connectivity, attracting top talent and partnerships.

Target Audience

1. Telecommunications Professionals.
2. IT and Digital Transformation Leaders.
3. Business Development & Innovation Teams
4. Government & Policy Makers.
5. Industry Vertical Specialists.
6. Technology Consultants & Analysts
7. R&D Professionals.
8. Project Managers.

Course Outline

Module 1: Introduction to 5G and its Strategic Context

- Understanding the Evolution from 1G to 5G: A Historical Perspective
- Key Pillars of 5G: eMBB, URLLC, mMTC Explained
- The Transformative Potential: Beyond Mobile Broadband
- Global 5G Rollout Status and Market Trends
- **Case Study:** How South Korea's early 5G deployment drove economic growth and innovation.

Module 2: 5G Network Architecture and Technologies

- Overview of 5G RAN (Radio Access Network) and 5G Core (5GC)
- Key Technologies: Massive MIMO, Beamforming, mmWave, Sub-6 GHz
- Software-Defined Networking (SDN) and Network Function Virtualization (NFV) in 5G
- Non-Standalone (NSA) vs. Standalone (SA) Deployments
- **Case Study:** Ericsson's role in building advanced 5G networks for major operators.

Module 3: Edge Computing: Bringing Intelligence Closer to the Source

- Concepts of Mobile Edge Computing (MEC) and its Relationship with 5G
- Benefits of Edge Computing: Low Latency, Bandwidth Optimization, Data Privacy
- Edge Computing Architectures and Deployment Models
- Use Cases of MEC: Real-time Analytics, AR/VR, Autonomous Systems
- **Case Study:** How AT&T is leveraging MEC for smart factory automation and predictive maintenance.

Module 4: Network Slicing: Tailoring Connectivity for Specific Needs

- Understanding the Principles and Benefits of Network Slicing
- How Network Slicing Enables Vertical-Specific Services
- Dynamic Resource Allocation and Service Level Agreements (SLAs)
- Challenges and Opportunities in Implementing Network Slicing

- **Case Study:** Telefónica's use of network slicing to provide dedicated connectivity for emergency services.

Module 5: Private 5G Networks: Enterprise Control and Customization

- Defining Private 5G: Benefits of Dedicated and Secure Connectivity
- Deployment Scenarios: On-Premise, Hybrid, and As-a-Service Models
- Key Considerations for Private 5G Adoption: Spectrum, Integration, Management
- Industry Applications: Manufacturing, Logistics, Mining, Ports
- **Case Study:** BMW's private 5G network at its manufacturing plant for real-time robotic control and AGVs.

Module 6: Industrial IoT (IIoT) and 5G for Industry 4.0

- The Convergence of 5G and IIoT: Enabling Smart Factories
- Real-time Monitoring, Predictive Maintenance, and Remote Operations
- Autonomous Systems: Robotics, Automated Guided Vehicles (AGVs)
- Digital Twins and Their Role in Industrial Optimization
- **Case Study:** Siemens' application of 5G in its Amberg factory for enhanced automation and efficiency.

Module 7: 5G in Smart Cities and Urban Development

- Enabling Technologies for Smart Cities: Sensors, Cameras, Connectivity
- Smart City Applications: Traffic Management, Public Safety, Waste Management
- Environmental Monitoring and Resource Optimization
- Digital Infrastructure Planning for Urban Environments
- **Case Study:** The Barcelona "Smart City" initiative leveraging 5G for improved urban services.

Module 8: 5G in Healthcare and Life Sciences

- Telemedicine and Remote Patient Monitoring with 5G
- Revolutionizing Hospital Operations: Asset Tracking, Real-time Data Access
- Augmented Reality (AR) and Virtual Reality (VR) in Medical Training and Procedures
- Enabling Remote Surgery and Emergency Response
- **Case Study:** China Mobile's deployment of 5G for remote diagnosis and surgery in rural hospitals.

Module 9: 5G in Transportation and Logistics

- Connected Vehicles and Autonomous Driving: The Role of URLLC
- Smart Logistics and Supply Chain Optimization
- Drone Delivery and Inspection Services
- Traffic Flow Optimization and Smart Intersections
- **Case Study:** Qualcomm's trials with C-V2X (Cellular Vehicle-to-Everything) technology for enhanced road safety.

Module 10: 5G for Enhanced Consumer Experiences

- Immersive Entertainment: AR/VR Gaming and Streaming
- Cloud Gaming and Edge-Powered Applications
- Fixed Wireless Access (FWA): Bridging the Digital Divide
- New Mobile Applications and Services

- **Case Study:** Verizon's push for 5G Home Internet and its impact on consumer broadband.

Module 11: Artificial Intelligence (AI) and Machine Learning (ML) in 5G Networks

- AI for Network Optimization: Self-Organizing Networks (SON)
- Predictive Analytics for Network Performance and Fault Detection
- AI-Enhanced Cybersecurity in 5G
- Machine Learning for Radio Resource Management
- **Case Study:** Nokia's use of AI/ML to enhance 5G network monitoring and anomaly detection.

Module 12: Cybersecurity and Regulatory Landscape of 5G

- New Attack Vectors and Vulnerabilities in 5G Networks
- Security Measures: Network Slicing for Security, Authentication, Encryption
- Data Privacy Concerns and Regulatory Compliance (e.g., GDPR)
- National Security Implications and Supply Chain Risks
- **Case Study:** The global debate and security concerns surrounding specific 5G equipment vendors.

Module 13: Economic Impact and Business Models of 5G

- Quantifying the Economic Value of 5G: GDP Growth, Job Creation
- New Revenue Streams for Operators and Enterprises
- Collaboration and Ecosystem Development in the 5G Era
- Investment Strategies and Return on Investment (ROI)
- **Case Study:** Analysis of how telecom operators are developing new pricing models and enterprise services for 5G.

Module 14: Future of Connectivity: Beyond 5G to 6G

- Early Concepts and Vision for 6G: Terahertz Frequencies, AI-Native Networks
- New Use Cases and Societal Impacts of Future Connectivity
- Research and Development Trends in Post-5G Technologies
- Challenges and Opportunities in the Next Decade
- **Case Study:** Global research initiatives and consortia shaping the vision for 6G.

Module 15: Strategic Implementation and Roadmapping

- Developing an Organizational 5G Strategy and Roadmap
- Identifying Key Stakeholders and Building Cross-Functional Teams
- Pilot Projects and Scalable Deployments
- Measuring Success and Continuous Adaptation
- **Case Study:** A multinational corporation's strategic approach to integrating 5G into its long-term digital strategy.

Training Methodology

This course employs a blended learning approach to maximize engagement and knowledge retention. Methodologies include:

- **Interactive Lectures:** Expert-led sessions with Q&A.
- **Case Study Analysis:** In-depth discussion of real-world 5G deployments and their strategic implications.

- **Group Discussions & Collaborative Exercises:** Fostering peer learning and diverse perspectives.
- **Practical Workshops:** Hands-on activities to reinforce theoretical concepts (e.g., simulating network slicing scenarios, developing basic use case frameworks).
- **Guest Speaker Sessions:** Insights from industry leaders and innovators.
- **Multimedia Resources:** Videos, infographics, and interactive simulations.
- **Capstone Project/Strategic Plan Development:** Participants apply learned concepts to develop a relevant 5G strategy for their organization or a hypothetical entity.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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